Computerized Accident or Incident Database

Summary Description

A computerized accident or incident database is an essential safety management tool for all but the smallest transit systems (i.e., those that can maintain data files for a small number of accidents in a manual format). A well-designed accident database can be used to identify drivers who require additional training, the specific type of training that they may require, design or equipment problems with specific buses, and special roadway conditions that lead to a preponderance of accidents in a particular location.

A comprehensive database will allow the system to track all of the details of both accidents and incidents, including minor events (such as rocks or other missiles thrown at the bus) and safety-related maintenance events on the road. An accident and incident reporting system that uses the database should be able to provide information on accident characteristics, causal factors, injuries sustained, repairs required, type of bus, other vehicles involved, costs, driver involved, location, police involvement, and so forth. Trend analysis using the database would allow an agency to track very specific problems (e.g., which types of buses are more likely to be involved in side collisions, leading to a decision to retrofit special lights or mirrors to solve the problem).

Sources or References

The development of an accident or incident database depends on the specific requirements of each individual transit system and the nature of the other information systems maintained by other departments (e.g., human resources [driver data], training, and risk management or claims) because of the need to have a good informational interface among all systems. There are a number of transit agencies that have identified their own accident database and accident analysis systems as being highly effective in reducing accidents. An examination of the database structure and the use of the related reporting and trend analysis systems developed by these agencies may be useful to other transit systems.

- Mississauga Transit (Ontario) has developed a comprehensive accident or incident database that enables Mississauga Transit to track detailed information on all types of accidents and incidents, even minor ones.
- Muni (San Francisco) has been able to conduct some excellent published research and statistical analyses on bus collision accidents and passenger accidents aboard transit vehicles because of Muni's comprehensive accident or incident database.
- Pierce Transit (Tacoma, Washington) uses its accident database and reporting systems to track preventable accident performance against safety goals for different classes of service (shuttle, fixed route, express) and to analyze the most common types of vehicle collisions for those services.
- Metro Transit (Seattle) is able to monitor bus accident trends and operator safety performance very precisely because of its comprehensive online accident database and query system. Metro Transit's safety section routinely generates analysis reports of accidents by classification codes, location, route, work location, coach type, and fleet. See the Metro Transit profile ("Monitoring and Managing Bus Operator Safety Performance") in Chapter 2 for further details.

Evaluation of Effectiveness

The accident or incident database is an essential component in conducting a quantitative evaluation of the effectiveness of other practices, but it cannot be evaluated as a separate practice.

Transit System or Other Contacts

Mississauga Transit
Maureen Perry
(905) 615-3860

Muni
Ron Hundenski
(415) 923-6290